Quantum Technologies

Technology Handout

Quantum Technologies GmbH – Precision through quantum sensor technology

Our mission

We are revolutionizing measurement technology with patented quantum sensors based on NV centers in diamond. Our technology delivers highly precise, robust, and miniaturized sensor solutions for markets where accuracy and reliability are crucial.

What makes our technology unique?

- Microwave-free sensor technology – compact design, no complex cooling or microwave technology.
- Robustness & versatility – operable at temperatures from −196 °C to over 700 °C, shock-resistant, insensitive to radiation.
- Optical coupling & galvanic isolation – safe even in high-voltage applications.
- Speed – response times in the nanosecond range.
- Miniaturization – sensor elements barely larger than a sugar cube, suitable for mobile devices and embedded systems.

Fields of application

- Medical technology: contactless measurement of weak magnetic fields for diagnostic procedures.
- Energy & Industry: Current and voltage monitoring, high-voltage diagnostics, material testing (NDT).
- Mobility: Monitoring in electromobility, aerospace.
- Research & Life Sciences: nanoscale magnetic field and temperature measurement.
- Security & Defense Technology: Precise field sensors for demanding operating environments.

Products & Solutions

- Fiber-coupled quantum sensors (QT-RH105): easy integration into existing systems.
- Magnetic field camera (QT-MI1080): imaging of magnetic fields at pixel level – from laboratory to industry.
- PCB-integrated NV sensors: quantum precision directly on printed circuit boards.
- HV measurement systems: galvanically isolated solutions for high-voltage systems.

Alte Messe 6, 04103 Leipzig
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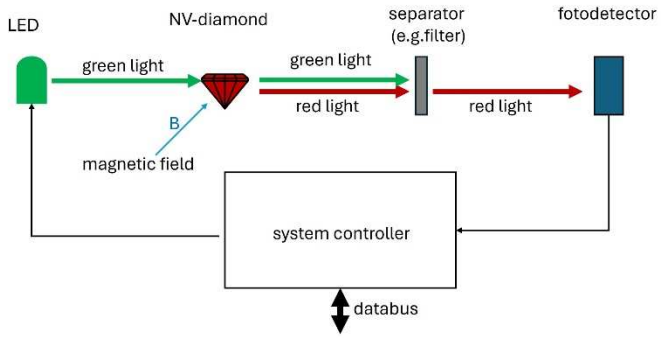
Technological background

The measurement principle

Our sensors utilize the unique properties of NV centers in diamond.



Green pump light excites the NV centers.

These emit red fluorescent light, the intensity of which depends precisely on the local magnetic field.

Magnetic fields, temperature, electric fields, or mechanical parameters are determined with high sensitivity from this signal.

Why diamond?

- Hardest material in the world: extremely resilient to mechanical stress.

- Stable defect centers: NV centers function reliably at room temperature.

- Chemically inert: also ideal for aggressive media such as salt water or corrosive gases.

Innovation lead

Our technology is patented and protected by over 150 international property rights. This secures Quantum Technologies GmbH's long-term position as a pioneer and market leader in microwave-free quantum sensor technology.

Investor perspective

- Quantum technology is a growth market: projected volume in the billions.
- Scalable manufacturing: CMOS-compatible processes enable series production.
- Strong partner network: close cooperation with leading industrial companies such as duotec GmbH.
- Funding & location advantage: support from the city of Leipzig and the Free State of Saxony.

Your added value

- For customers: reliable, precise sensor technology with a genuine technological edge.
- For investors: Participation in a dynamic high-tech company with an international intellectual property portfolio.

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